

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A method, comprising:

transmitting data over a data transmission network from a first circuit switched transmission line through a first circuit switched network node towards a second circuit switched network node that is coupled to a second circuit switched transmission line;

employing, in the data transmission network, an IP protocol for transmissions from said first circuit switched network node, which receives data from said first circuit switched transmission line, towards said second circuit switched network node, said data being destined for transmission into said second circuit switched transmission line;

using an IP protocol datagram to transmit data received from the first circuit switched transmission line towards the second network node;

forming a header for said IP protocol datagram based at least partly on circuit switched channel identifying parameters, which identify at least one channel in the second circuit switched transmission line, and an IP protocol address of the second network node; and

indicating within said IP protocol datagram separately for each of a plurality of time slots known to at least one of said first and second circuit switched network nodes, whether the IP protocol datagram carries data belonging to a channel corresponding to the time slot, so that when it is indicated that the IP protocol datagram does not carry data belonging to a channel, the second circuit switched network node is allowed to receive data to that channel from other sources from an IP-network in a non-consecutive manner.

2. (Canceled).

3. (Canceled).

4. (Previously presented) The method according to claim 1, wherein data from at least one channel of the first circuit switched transmission line is transmitted as compressed data over the data transmission network.

5. (Previously Presented) The method according to claim 4, wherein only compressed speech signal parameters of a signal received from said at least one channel of the first circuit switched transmission line are transmitted over the data transmission network; wherein said received signal comprises an uncompressed speech signal part and compressed speech parameters.
6. (Previously presented) The method according to claim 4, wherein the received signal of said at least one channel of the first circuit switched transmission line is compressed in the first network node.
7. (Previously Presented) The method according to claim 28, wherein compressed speech parameters received from the first network node are decompressed into an uncompressed speech signal before transmission into the second circuit switched transmission line.
8. (Previously Presented) The method according to claim 1, wherein samples of data from more than one channel of the first circuit switched transmission line are transmitted over the data transmission network in one IP protocol datagram.
9. (Previously Presented) The method according to claim 1, further comprising:
 - transmitting a message which describes supported coding modes for compressed speech parameters from the first circuit switched network node to the second circuit switched network node, and
 - describing said supported coding modes in said transmitted message in an order of preference for optimizing speech data transmission.
10. (Currently Amended) A network element, comprising:
 - a first connection for connecting to a first circuit switched transmission line;
 - a second connection for connecting to a data transmission network employing an IP protocol, and
 - ~~a storage medium embodying computer-executable instructions that, when executed~~ on a processor [, are]] configured to implement an IP protocol address generating unit for generating IP protocol addresses for IP protocol datagrams to be transmitted over said data transmission network to a second network element;

wherein said IP protocol address generating unit is configured to form a header of an IP protocol datagram based at least partly on circuit switched channel identifying parameters, which identify at least one channel in a second circuit switched transmission line coupled to the second network element, and an IP protocol address of the second network element; and wherein the network element is configured to indicate within said IP protocol datagram separately for each of a plurality of time slots known to at least one of said first and second network elements, whether the IP protocol datagram carries data belonging to a channel corresponding to the time slot, so that when it is indicated that the IP protocol datagram does not carry data belonging to a channel, the second circuit switched packet network element is allowed to receive data to that channel from other sources from an IP-network in a non-consecutive manner.

11. (Canceled).

12. (Previously Presented) The network element according to claim 10, wherein the network element comprises a compressed speech parameter extraction unit for extracting compressed speech parameters from at least one signal from the first circuit switched transmission line, said at least one signal comprising an uncompressed speech signal part and compressed speech parameters.

13. (Previously Presented) The network element according to claim 10, wherein the network element comprises a compression unit for compressing a signal of at least one channel of the first circuit switched transmission line before transmission over the data transmission network.

14. (Previously Presented) The method according to claim 1, further comprising:
inserting status information into the datagram.

15. (Previously Presented) The method of claim 14, wherein said status information comprises at least an indicator to indicate activity of the at least one channel, a length of samples of the at least one channel and whether channel information definition is comprised in the IP protocol datagram.

16. (Currently Amended) The method according to claim 1,
wherein said forming of a header for said IP protocol datagram is based at least partly on a time slot number that at least one of said first and second network nodes knows ~~associate~~ is associated with data which is transferred in the IP protocol datagram.
17. (Previously Presented) The network element according to claim 10,
wherein the network element is configured to insert status information into the IP protocol packet.
18. (Currently Amended) The network element according to claim 10,
wherein the network element is configured to determine said IP protocol address based at least partly on a time slot number that at least one of said first and second network nodes knows ~~associate~~ is associated with data which is transferred in the IP protocol datagram.
19. (Previously Presented) The method according to claim 1, further comprising:
inserting a number of samples from at least one channel of said first transmission line into a payload portion of said IP protocol datagram.
20. (Previously presented) The method of claim 1, wherein the method comprises transmitting the number of time slots in the corresponding frame.
21. (Previously Presented) The method of claim 28, wherein the method comprises receiving data of different time slots of a single PCM trunk line from different packet network gateways.
22. (Previously presented) The method of claim 1, wherein a first packet network gateway acts as said first circuit switched network node and sends data to a second packet network gateway that acts as said second circuit switched network node, and said first packet network gateway uses headers of transmitted IP protocol datagrams to identify time slots 5 to 10 of a PCM trunk line operating at least at the rate 2048 kbit/s as destinations of transmitted data at said second packet network gateway.

23. (Previously presented) The method of claim 22, wherein a third packet network gateway is arranged to send data to the second packet network gateway and to use headers of transmitted IP protocol datagrams to identify the rest of the time slots of the same PCM trunk line as destinations of data transmitted from said third packet network gateway to said second packet network gateway.

24. (Previously Presented) The method of claim 28, wherein a destination packet network gateway acts as said second circuit switched network node and receives data destined to a group of channels in the second circuit switched transmission line from another packet network gateway.

25. (Previously Presented) The method of claim 28, wherein said second circuit switched network node receives data destined to individual channels in the second circuit switched transmission line separately from one or more other sources, such as IP telephones.

26. (Canceled).

27. (Previously Presented) The network element according to claim 10, wherein the network element is configured to insert a number of samples from said at least one channel of said first transmission line into a payload portion of said IP protocol datagram.

28. (Previously Presented) A method, comprising:

receiving data over a data transmission network, said data coming from a first circuit switched transmission line through a first circuit switched network node, at a second circuit switched network node that is coupled to a second circuit switched transmission line;

employing, in the data transmission network, an IP protocol for transmissions from said first circuit switched network node to said second circuit switched network node, said data originating from said first circuit switched transmission line and being destined for transmission into said second circuit switched transmission line;

using an IP protocol datagram to receive data transmitted from the first circuit switched transmission line at the second network node;

reading a header from said IP protocol datagram, said header being based at least partly on circuit switched channel identifying parameters, which identify at least one channel

in the second circuit switched transmission line, and an IP protocol address of the second network node; and

reading from said IP protocol datagram an indication separately for each of a plurality of time slots known to at least one of said first and second circuit switched network nodes, whether the IP protocol datagram carries data belonging to a channel corresponding to the time slot, so that when it is indicated that the IP protocol datagram does not carry data belonging to a channel, the second circuit switched network node is allowed to receive data to that channel from other sources from an IP-network in a nonconsecutive manner.

29. (Currently Amended) A second network element, comprising:

a first connection for connecting to a data transmission network employing an IP protocol,

a second connection for connecting to a second circuit switched transmission line, and
~~a storage medium embodying computer-executable instructions that, when executed~~
on a processor [, are]] configured to implement an IP protocol address reading unit for reading IP protocol addresses from IP protocol datagrams received over said data transmission network from a first network element;

wherein said IP protocol address reading unit is configured to read a header from an IP protocol datagram based at least partly on circuit switched channel identifying parameters, which identify at least one channel in the second circuit switched transmission line coupled to the second network element, and an IP protocol address of the second network element; and wherein the network element is configured to read from said IP protocol datagram an indication separately for each of a plurality of time slots known to at least one of said first and second network elements, whether the IP protocol datagram carries data belonging to a channel corresponding to the time slot, so that when it is indicated that the IP protocol datagram does not carry data belonging to a channel, the second circuit switched packet network element is allowed to receive data to that channel from other sources from an IP-network in a non-consecutive manner.